



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/664,064

09/17/2003

James P. Landers

119620-00101

3254

27557

7590

03/29/2006

BLANK ROME LLP

600 NEW HAMPSHIRE AVENUE, N.W.

WASHINGTON, DC 20037

EXAMINER

JAGAN, MIRELLYS

ART UNIT

PAPER NUMBER

2859

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

N.A

Office Action Summary	Application No.	Applicant(s)	
	10/664,064	LANDERS ET AL.	
	Examiner	Art Unit	
	Mirellys Jagan	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
 4a) Of the above claim(s) 1-18 is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 19-24 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 20 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/20/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f), or (g) prior art under 35 U.S.C. 103(a).

3. Claims 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,210,882 to Landers et al [hereinafter Landers] in view of U.S. Patent 5,381,229 to Murphy et al [hereinafter Murphy].

Landers discloses a method for measuring the temperature of a small volume solution, the method comprising the steps of:

providing an optical temperature sensor (178);

Art Unit: 2859

providing a small volume of a sample (172) contained in a closed reservoir (14);
interrogating the small volume with the sensor to obtain an output; and
converting the output of the sensor to temperature;
wherein the sample is contained in a microchip, capillary tube, microchamber, or
microtiter plate; the converting step is performed by a microprocessor; and the volume is about
100 pL to about 100 microliters (nanoliter range) (see figures 1B, 1D, 6C, 6D; column 8, lines
48-63; column 9, lines 19-37 and 49-55; column 13, line 52-column 14, line 2; column 14, lines
60-64; column 15, lines 38-52; and column 16, line 59-column 17, line 30).

Landers does not disclose the optical temperature sensor being an optical interferometric
sensor using a standard curve obtained by interrogating samples at known temperatures using the
sensor to convert the signal from the sensor to a temperature signal, the sensor being an extrinsic
Fabry-Perot interferometer.

Murphy discloses an optical interferometric sensor as an optical temperature sensor for
obtaining temperature measurements. The sensor is an extrinsic optical interferometric sensor
(Fabry-Perot type, as described by applicant in figure 1 of the specification) using a
microprocessor to determine temperature, the microprocessor using a standard curve (look-up
table) when converting the signal from the interferometer to a temperature measurement. The
standard curve correlates the sensor output to a corresponding temperature measurement. The
sensor is useful for obtaining non-contact temperature measurements and is useful in a wide
temperature range, e.g., up to 2000°C (see figure 3; column 5, line 35-column 6, line 9; and
column 6, lines 31-50).

Referring to claim 19, it would have been obvious to a person having ordinary skill in the

Art Unit: 2859

art at the time that the invention was made to modify the method disclosed by Landers by replacing the optical temperature sensor with an extrinsic optical interferometric sensor using a microprocessor to obtain the temperature, as disclosed by Murphy, since Murphy teaches that an extrinsic optical interferometric sensor is a useful sensor for measuring temperatures remotely and is useful in a wide temperature range.

Referring to claim 21, the standard curve of Landers and Murphy is predetermined and stored in a microprocessor memory, the curve correlating the output of the sensor with a corresponding temperature measurement. Therefore, the standard curve is obtained by interrogating samples at known temperatures using the sensor, as claimed (the temperatures of the samples must be known in order to correlate them to the corresponding sensor output in order to create the predetermined curves).

Response to Arguments

4. Applicant's arguments with respect to claims 19-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 2859

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 571-272-2247. The examiner can normally be reached on Monday-Friday from 11AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
March 22, 2006



Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800